VA/DoD Clinical Practice Guideline for the Diagnosis and Management of Hypertension - Pocket Guide Update 2004 Revision July 2005

Table 3: Impact of Lifestyle Therapies on BP in Hypertensive Adults

Intervention	Lifestyle Modification or Change	Expected SBP Reduction (range)
Sodium intake reduction	Maximum of 100 meg/L day (2.4 gm sodium or 6 gms sodium chloride)	2-8 mm Hg
Weight loss	Reduce and/or maintain normal body weight (e.g., BMI 18.5-24.9)	5-20 mm Hg/ 10-kg wt loss
Alcohol reduction	Limit to no more than 2 drinks/day for men, no more than 1 drink/day in women and light weight persons	2-4 mm Hg
Exercise	Aerobic exercise for at least 30 minutes, most days of week	4-9 mm Hg
DASH Diet	DASH* diet rich in fruits, vegetables, low-fat dairy products, with overall reduced saturated and total fat content	8-14 mm Hg

* Dietary Approaches to Stop Hypertension

Refer to full guideline or guideline summary for medication dosage recommendations

Table 1: Follow-Up and Therapy Based on Initial Blood Pressure Measurements For Adults

	SBP * Mm Hg	DBP* Mm Hg	Follow-up	LSM**	Initial Drug Therapy
Normal	**< 120**	**< 80**	Recheck in 1 year	**Consider**	
Prehyper-tension	**120-139**	**80-89**	Recheck in 1 year***	**Yes**	• Consider for patient with DM
Stage 1 Hyper-tension	**140-159**	**90-99**	Confirm within 1-2 months	**Yes**	• Thiazide diuretic unless contraindi-cated or not tolerated (Consider ACEI, ARBs, BB, CCB). • For compelling indication, see Table 5
Stage 2 Hyper-tension	**≥160**	**≥100**	Evaluate or refer to source of care within 1 month, or sooner, depending on clinical situation	**Yes**	• Drug therapy with combination of 2 drugs for most patients. Should include thiazide-type diuretic unless contraindicated or not tolerated (Consider ACE, ARBs, BB, CCB). • For compelling indication, see Table 5

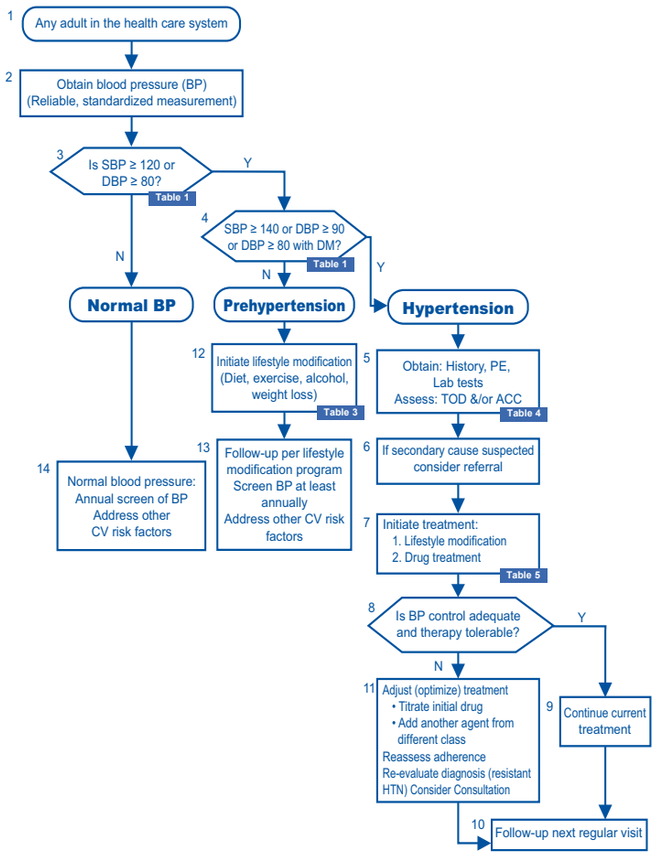
* If systolic and diastolic categories are different, follow recommendations for the higher measurement. (e.g. 160/86 mm Hg is considered Stage 2 hypertension).

** Lifestyle Modification

*** Modify the scheduling of follow-up according to reliable information about past blood pressure measurements, other comorbidities, or target organ disease.

Table 2: Routine laboratory tests for the investigation of all patients with hypertension

1. Urinalysis (UA)
2. Blood chemistry (potassium, sodium, blood urea nitrogen [BUN], creatinine, fasting glucose)
3. Fasting lipid profile (total cholesterol, high density lipids-cholesterol [HDL-C], low density lipids-cholesterol [LDL-C], triglycerides [TG])
4. 12-lead electrocardiography



VA access to full guideline: http://www.oqp.med.va.gov/cpg/cpg.htm
DoD access to full guideline: http://www.qmo.amedd.army.mil/pguide.htm

September 2004

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Table 4: Indicators For High Absolute Risk of A Primary Or Secondary Cardiovascular Event

Associated Clinical Conditions (ACC)	Target Organ Disease (TOD)
Diabetes **Cerebrovascular disease** • Ischemic stroke • Cerebral hemorrhage • Transient ischemic attack **Heart disease** • Myocardial infarction • Angina • Coronary revascularization • Chronic heart failure **Chronic kidney disease** • Diabetic nephropathy • Glomerulonephritis • Hypertensive renovascular disease **Aortic disease** • Dissecting aneurysm • Fusiform aortic aneurysm **Peripheral arterial disease**	• Left ventricular hypertrophy (LVH) (electrocardiogram, echocardiogram) • Microalbuminuria ≥30 mcg/min and/or proteinuria ≥200 mg/day and/or glomerular filtration rate (GFR) < 60 mls/min • Ultrasound or radiological evidence of atherosclerotic plaque (aorta, carotid, coronary, femoral and iliac arteries) • Hypertensive retinopathy (Grade II or more)

Modified from: Guidelines Subcommittee of the WHO-ISH: 1999 WHO-ISH guidelines for the management of hypertension. J Hypertens 1999, 17:151-183.

Table 6: Strategies to Improve Patient Adherence to Antihypertensive Therapy

1. Be aware of signs of patient non-adherence to therapy.(e.g., missed appointments, missed refills)
2. Establish the goal of therapy early: to reduce BP to non-hypertensive levels with minimal or no adverse effects
3. Educate patients about the disease, and involve them and their families in its treatment. Have them measure blood pressure at home
4. Maintain contact with patients; consider contact by phone/e-mail
5. Integrate pill taking into routine activities of daily living
6. Prescribe medications that require no more than twice daily dosing if possible
7. Ask about adverse effects and adjust therapy to prevent, minimize, or ameliorate side effects.
8. Enlist the support of pharmacist in adjusting medication with regular follow-up
9. Consider group visits for education

Table 5: Drug Therapy

Preferred Agents In Patients With Uncomplicated Hypertension

	Preferred Agents	Alternate Agents	Other agents	Comments*
HTN - without compelling indications	• Thiazide-type diuretic	• ACEI • ARB • Beta-blocker • CCB	Aldosterone antagonist Alpha-blocker Clonidine Reserpine Vasodilator	1. Immediate-release nifedipine should not be used. 2. An ARB may be considered in a patient who is intolerant to an ACEI. 3. Alpha-blockers are useful in treating symptomatic BPH, but are not recommended as monotherapy for treating HTN.

Preferred Agents in Patients with Comorbidity

	Preferred Agents	Additional/Alternative Agents	Other Agents
DM †	• Thiazide-type diuretic and/or • ACEI	• ARB • CCB • Beta-blocker	
Systolic HF	• ACEI • Beta-blocker	• ARB • Hydralazine-Nitrate • Aldosterone antagonist	• Diuretic (for treatment of volume overload) • LADHP
CKD ‡	• ACEI • ARB • Diuretic (thiazide or loop, based on kidney function)	• Beta-blocker • NCCB • LADHP	
Post Stroke	• Thiazide-type diuretic and • ACEI		
Post – MI	• Beta-blocker • ACEI	• NCCB • Thiazide-type diuretic	• LADHP

Preferred Agents for Patients in High Ambient Temperatures or in Other Extreme Conditions that Increase Dehydration Risk

	Preferred Agents	Alternate Agents	Comments
High ambient temp and/or extreme conditions	• LADHP • ACEI • ARB	• CCB • Low dose Thiazide- type diuretic	For patient already deployed to high ambient conditions, consider LADHPs.

Revision July 2005

† See VA/DoD Clinical Practice Guideline, Management of Diabetes Mellitus
‡ See VA/DoD Clinical Practice Guideline, Management of Chronic Kidney Disease and Pre-ESRD
ACEI = angiotensin-converting enzyme inhibitor; ARB = angiotensin receptor blocker; CCB = calcium channel blocker; NCCB = nondihydropyridine calcium channel blocker; CDK = chronic kidney disease; LADHP = long-acting dihydropyridine calcium cannel blocker
* For complete drug information, review the manufacturer's prescribing information